Environmental and Sustainability Considerations in the Joint Integration Development System (JCIDS)

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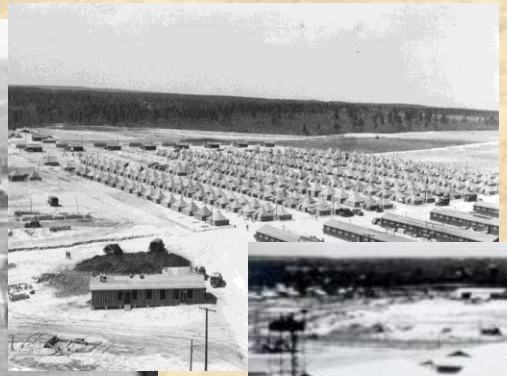
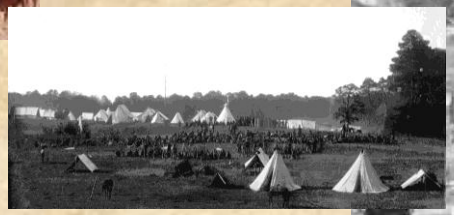
Purpose and Scope

- **Purpose**
  - **Provide an overview of existing processes for incorporating environmental considerations and sustainable practices into the JCIDS process.**
  - **Analyze how requirements and needed capabilities are recognized, relating to environmental considerations and sustainability and how policy, doctrine and lessons learned impact delivering solutions to these problems .**
- **Scope**
  - **Background**
  - **Capability Development Processes**
  - **Recent Initiatives and Efforts**
  - **Way Ahead**
  - **Discussion**
  - **Questions**

Base Camps throughout US History





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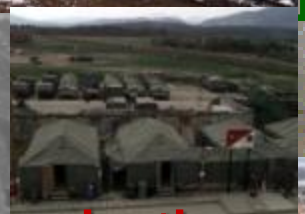
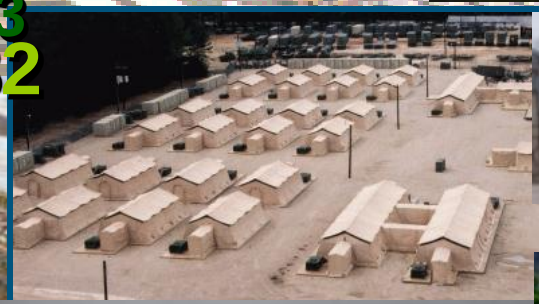




Encampments
Life Support Areas
Major Supply Points
Secure Lines of Communication
Enable Power Projection

Background

- **US Forces are currently required to conduct extended operations over time in deployed locations.**
- **Over time, these deployed locations may evolve into base camps.**
- **There are currently no standards addressing the planning, design, construction, operations, management , transfer or closure of base camps – In the past 20 years the Army has established over 1000 base camps; each one was a "one off"/ad hoc effort.**
- **The Army looks at Base Camps across the Full Range of Military Operations for our Forces.**

Environmental Considerations and Sustainability Issues are prevalent across all types and sizes of base camps

Life Cycle of Base Camps

Need to establish an encampment identified

Unit Equipment/Solutions – Organic Tents, Gensets & Hi-Power

Poncho/ Pup Tents

Immature

Organic Unit Tentage

Initial Standard: Tents, Force Provider or BEAR

Bare Dirt

End State

An integrated system from which to project combat power, while protecting and sustaining forces that is resource efficient, environmentally responsible, and culturally sensitive throughout the life-cycle and across the spectrum of its employment.

Initial Facilities

Maturing

Enduring Facility

Mature

Semi - Fixed Facilities

Temporary Facilities

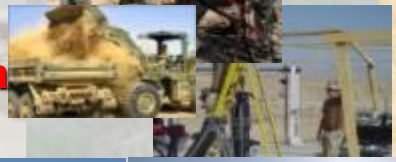
Semi-Permanent or Permanent Standard:
Brick/Frame/Steel Buildings & Infrastructure
MIL Eng/LOGCAP/AFCAP/GCSC or USACE Constructed

Temporary Standard:
SEA Huts, CHU, RLB, Converted Buildings
MIL Eng/LOGCAP/AFCAP/GCSC Constructed

Base Camp Systems

Health & Safety

Habitation

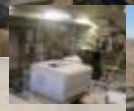


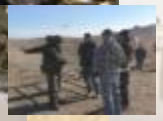
Construction Capabilities

Waste Management

Waste Water

Power Generation





Operations

Force Protection

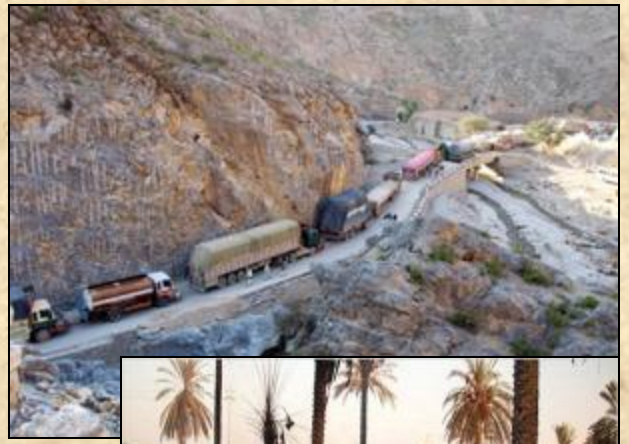
Potable Water

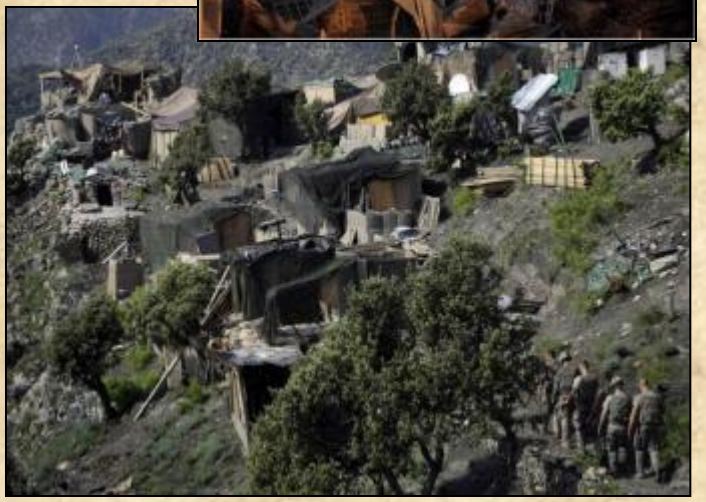
Mission Support

Billeting	Showers
Laundries	Latrines
Kitchens	Administrative Facilities
Dining Facilities	MWR Facilities
Power Generation & Distribution	Water Storage & Distribution
Fuel Storage	Waste Water Mgmt & Storage
Prime Power Interface Kit	Heating, Ventilation & Air Conditioning
Force Protection	Perimeter Security

Systemic Base Camp Challenges

- **Consume vast amounts of resources**
- **Generate vast quantities of liquid & solid waste**
- **Challenging to protect from attacks**
- **Too much manpower to establish and shut down**
  - Ability to "lift & shift" is severely limited
- **Combat power diverted from counter insurgency (COIN) tasks to convoy/base security, base ops & maintenance**
- **Lack of standardization, robustness, systems architectures, interoperability & scalability**
- **Total life cycle costs are prohibitive**

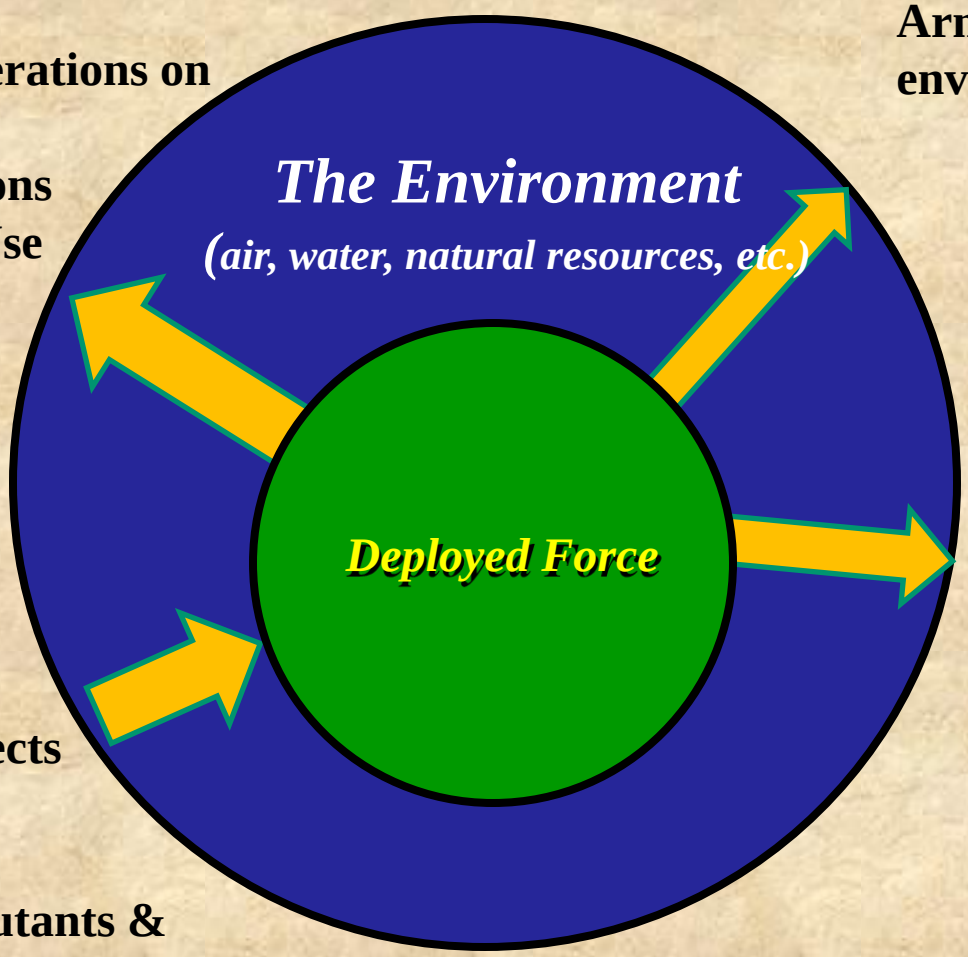




Deployed Forces and the Environment

Effects of Army Operations on the environment

- Combat Operations
- Land/Resource Use
- Waste



Army actions to secure environmental resources

- Water
- Energy Sources
- Infrastructure

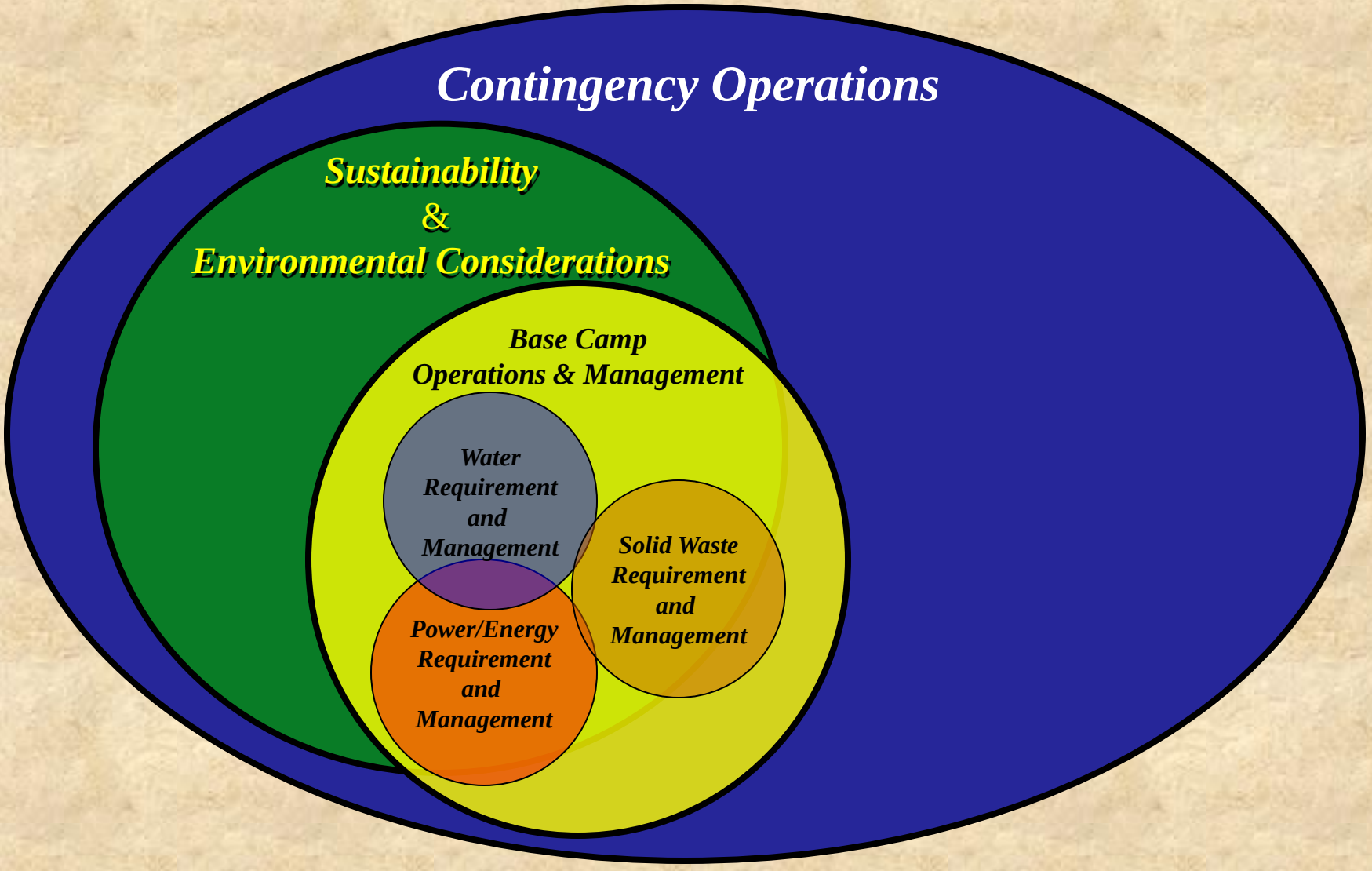
Army actions to improve the environment

- Stability/Recon Ops
- Infrastructure
- Preservation
- Sound environmental mgmt practices
- Restoration

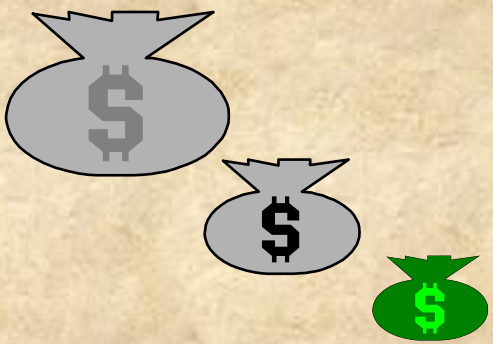
Environmental Effects

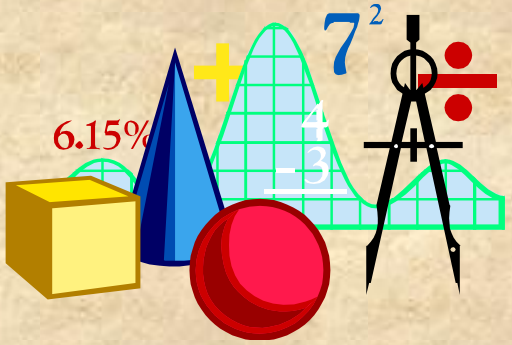
- Disease
- Climate
- Exposure to Pollutants & Hazardous Materials
- Costs

Sustainability and Environmental Considerations



Capabilities Development 101



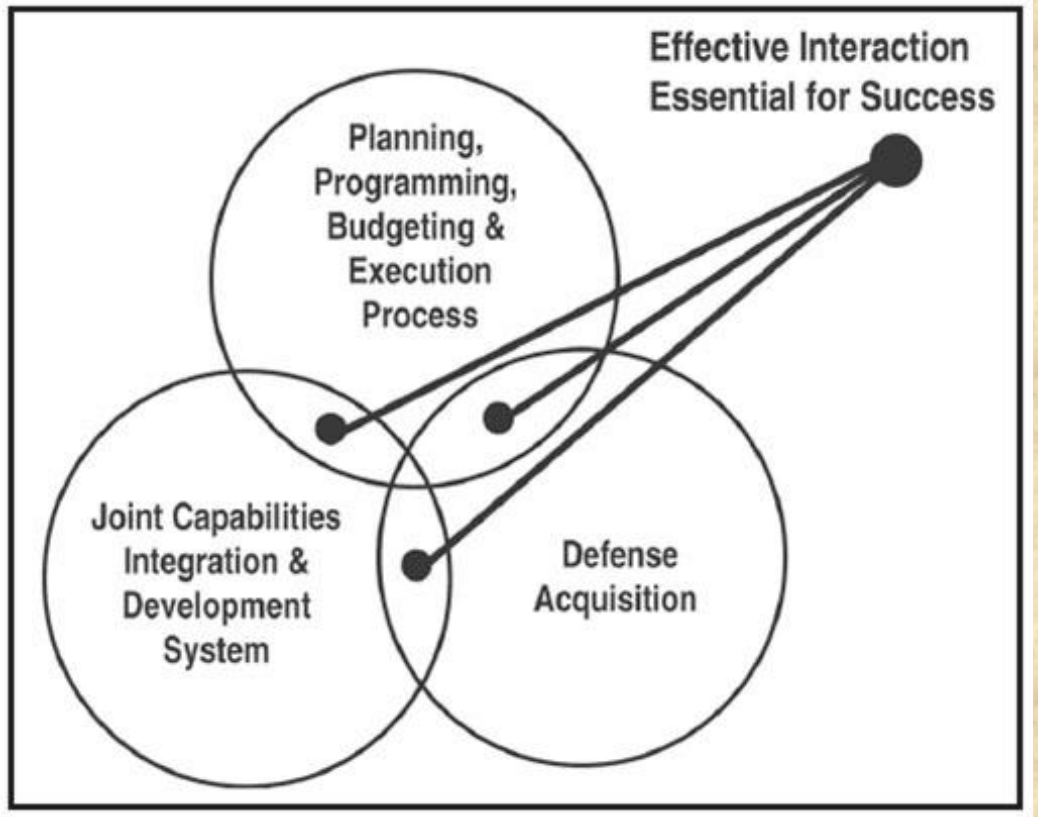


Joint Capabilities Integration & Development System (JCIDS)

DOD has 3 key processes to deliver the capabilities required by the warfighter:

- **The requirements process;**
- **The acquisition process;**
- **and the Planning, Programming, Budget, and Execution (PPBE) process**

- **JCIDS implements the requirements process.**
- **JCIDS identifies, assesses, and prioritizes joint military capability needs as required by law.**
- **The capabilities are identified by analyzing what is required across all functional areas to accomplish the mission.**



Version 5.4, 15 June 2010

Integrated Defense Acquisition, Technology, and Logistics Life Cycle Management System

Following the Material Development Decision, the Milestone Decision Authority may authorize entry into the acquisition process at any point, consistent with phase-specific entrance criteria and statutory requirements

Materiel Solution Analysis Phase | **Technology Development Phase** | **Engineering & Manufacturing Development Phase** | **Production & Deployment Phase** | **Operations & Support Phase**

MDD | MS A | MS B | Post-CDR A | MS C | FRP DR | IOC | FOC | Disposal

Integrated System Design | System Capability & Manufacturing Process Demonstration | Low-Rate Initial Production | Full-Rate Production/Deployment | Life Cycle Sustainment

Joint Capabilities Integration & Development System (need-driven)

Initiate Evolutionary Acquisition Strategy | Evolutionary Acquisition Strategy

Increment 2 | Increment 3

Oversight & Review

Contracting

Major Products

Logistics/ Sustainment

Defense Acquisition System (event-driven)

Technical
Systems Engineering
Test and Evaluation
Reportability

Financial Management

Cost Estimation Methods

Types of Funds

PMO POM Input

PMO Budget Estimate

Appropriated Funds To Support Contracts

Planning, Programming, Budgeting & Execution Process (annual-calendar-driven)

Military Departments and Defense Agencies

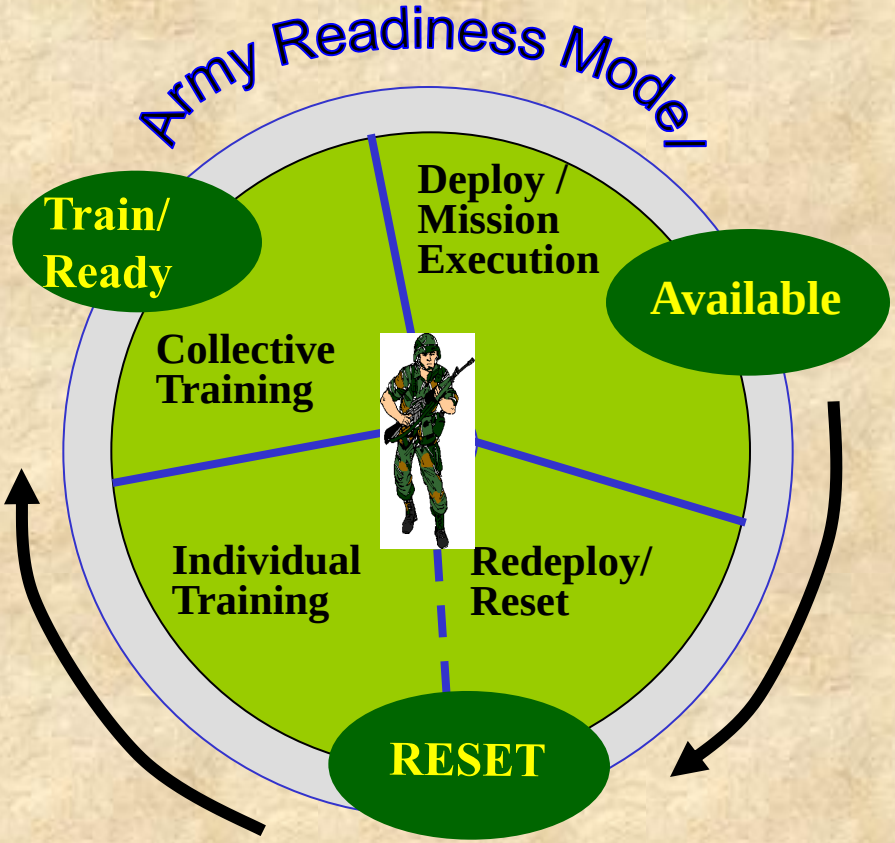
Office of the Secretary of Defense and Joint Staff

White House

Training and Doctrine Command (TRADOC)

Mission

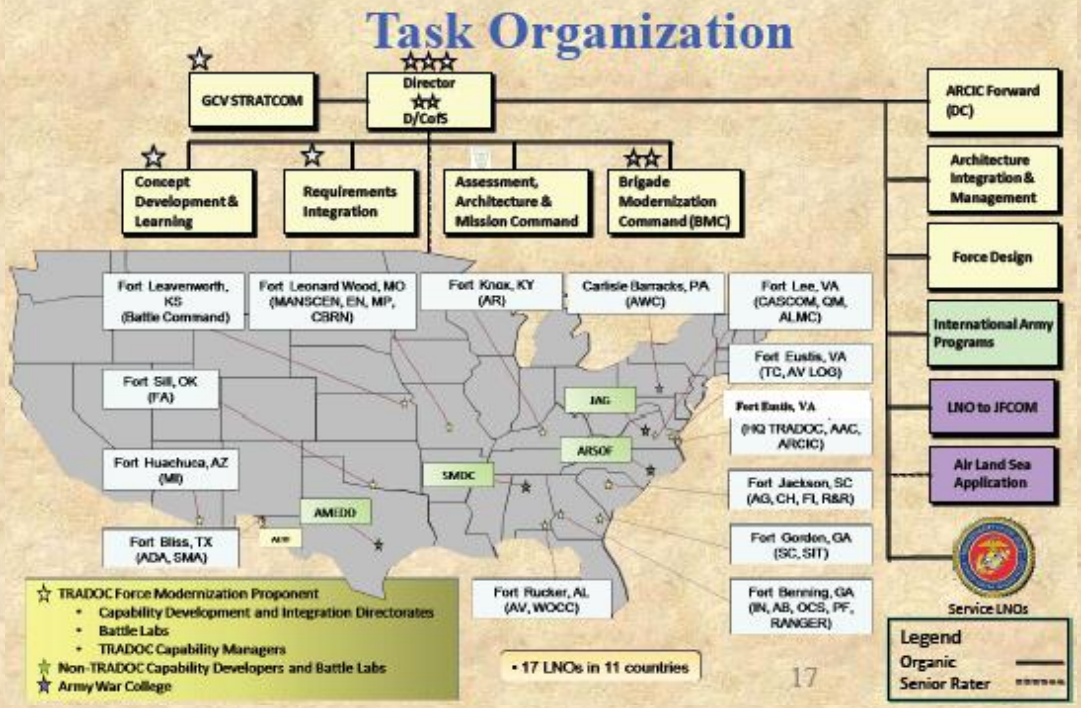
TRADOC develops the Army's Soldier and Civilian leaders, and designs, develops, and integrates capabilities, concepts and doctrine to build a campaign-capable, expeditionary and versatile Army in support of joint warfighting commanders through Army Force Generation (ARFORGEN); Provides support the Army's Human Capital Core Enterprise.



Army Capabilities Integration Center (ARCIC)

Mission

The ARCIC leads the development and integration of force capabilities across the DOTMLPF for the Army within a Joint, Interagency, Intergovernmental and Multinational (JIIM) environment to support the Joint Force Commander through ARFORGEN



- **Single agent for *Architect of the Future Army***
- **Army's integrator for current and future force capabilities developments**

ARFORGEN: Army Force Generation
DOTMLPF: Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities

TRADOC Centers of Excellence (CoEs)

Command Sergeant Major

Institute for NCO Professional Development

USASMA

TRADOC Commanding General

Army War College

TRADOC Analysis Center

Deputy Commanding General

TRADOC Staff

Army Aeronautical Services Agency

Combined Arms Center

DCG Initial Military Tng

IMT CoE

DCG Army Capabilities Integration Center

Army Accessions Command

(DRU to HQDA)

Mission Command WFF

Mission Command CoE

Intelligence CoE

Signal CoE

Intelligence WFF

Maneuver CoE

Maneuver WFF

Armor School

Infantry School

Aviation CoE

Fires CoE

Fires WFF

Artillery School

Air Defense School

Maneuver Support CoE

Protection WFF

Engineer School

MP School

Chemical School

Sustainment CoE

Sustainment WFF

Ordnance School

QM School

Transport School

Direct Reporting Unit

Coordinating Relationship

Warfighting Function (WFF) CoE

Integrated Capabilities Development Teams (ICDTs)

What: **an integrating team made up of multi-disciplined personnel**

Purpose: **Prioritize, integrate, and synchronize all DOTMLPF requirements within the assigned function portfolio as informed by the assigned warfighting Army functional concept (AFC)**

Key is simplicity and flexibility:

- **ICDTs are:**
  - **chartered by Director, ARCIC**
  - **chaired by a TRADOC CoE**
  - **produce deliverables**

Empowered participants essential

Required Capabilities Identification for Environmental Considerations and Sustainability

EC & Sustainability Tasks in Base Camp CBA

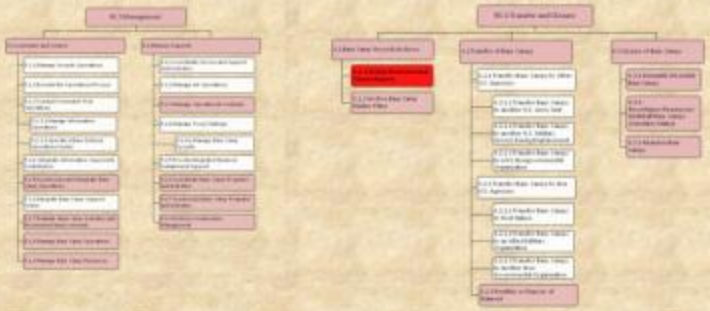
RC 1- EC & Sustainability Tasks

RC 2 - EC & Sustainability Tasks RC

RC 3 - EC & Sustainability Tasks RC

RC 4 - EC & Sustainability Tasks RC

RCs 5 & 6 - EC & Sustainability Tasks



81 related tasks
24 direct tasks

Base Camp CBA Summary

37 Areas related to Environmental Considerations and Sustainability

- **Conduct geospatial engineering operations and functions**
- **Master planning/design and Real Estate – land use, Environmental Baseline Surveys (EBS), abandon, dismantle, and demolish base camps**
- **Utilities – power generation and distribution systems, physical plants, utility infrastructure**
- **Water (potable and non- potable) production, distribution and management**
- **Environmental, Safety, Occupational Health (ESOH) and hygiene support services (i.e. fire prevention and response or spill control)**
- **Maintain water (potable and non- potable) production and distribution**
- **Sanitation, waste collection, and treatment systems**
- **Construction materials management and reuse – modular, scalable, sustainable**
- **Integrated pest management and vector control support.**
- **Force health protection**

Sustainment CBA

Chapter 4 (Other Services) Annex B

7 Specific Required Capabilities for Environmental Considerations and Sustainability Identified

- **Assess/predict effects of EC when conducting full spectrum operations.**
- **Provide environmental support when conducting full spectrum operations.**
- **Provide waste management when conducting full spectrum operations.**
- **Provide environmental clean up when conducting full spectrum operations.**
- **Provide environmental engineering reconnaissance/survey when conducting full spectrum operations.**
- **Provide engineering in order to assure mobility, enhance protection, enable expeditionary logistics, build capacity, and minimize environmental impacts.**
- **Plan design, construct, operate, transfer and close base camps in a joint, international and multinational environment to provide safe, secure, and largely self-sustaining base camps to support full spectrum operations.**

DOTMLPF Analysis Solution Summary

D

- Revise and update doctrine for large scale clean up operations to include sampling requirements and procedures.
- Revise and update doctrine on battlefield assessment/prediction of effects of environmental conditions.

O

- Increase Engineer Facilities Detachments (EFDs) to 1 per base camps with 5000 people or more.
- Increase Forward Engineer Support Teams (FEST)-As and FESTs-Main.
- Assign environmental engineers to 1 per BN.
- Provide waste management SME support in development of contract performance work statements/ scopes of work for contracting personnel.

T

- Train Soldiers in environmental sampling procedures.
- Revise lesson plans for more in-depth instructional blocks on EC & Support for the EC CCC, BOLC, WOAC, WOBC
- Develop and train Individual common Soldier Environmental support tasks for the Army.

m
M

- Increase quantity of waste management equipment sets currently found in Force Provider to provide for each 600-man sized base camp component.
- Develop SKOs for the engineers or base camp mayor cells to include waste management equipment such as waste incinerators that are available commercially but need to be modified to meet expeditionary basing requirements. Modify Environmental Sampling Kits SKOs based off of USAPHC sampling kits.
- Develop Environmental Sampling Kits SKOs.
- Adapt ENFIRE or FIRESTORM or IKE to include environmental data collection.
- Modify existing laboratory capability from AMEDD, CID, or Common Analytical Laboratory Systems for environmental sample analysis.
- Develop IT for tracking, storing, archiving, and accessing environmental data.

DOTMLPF Analysis Solution Summary

L

- **Add instruction on environmental considerations to all PCCs to emphasize leaders including assessment/prediction of environmental conditions as part of their mission planning requirements.**
- **Emphasize leader education on planning for life cycle of waste management in operations.**
- **Emphasize to leaders the importance of including environmental reconnaissance/survey in early planning stages.**
- **Emphasize to leaders the importance of conducting EBSs prior to occupying an area. Educate Leaders to ensure personnel tasked with conducting Environmental Baseline Surveys (EBS) are properly trained and equipped.**

P

- **Develop and track an ASI or secondary MOS for environmental engineers.**
- **Develop EPA-lab- qualified personnel to conduct lab analysis needed for environmental sample processing.**

F

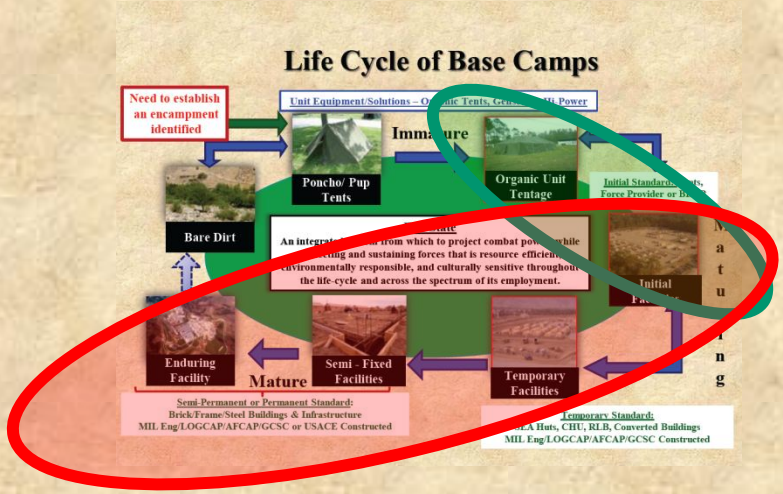
- **Provide training facilities that includes existing buildings, open areas, ranges, etc. for assessment/ prediction of environmental effects.**

AP

- **Revise/update Army policy on waste management to be more specific to standardize waste management in-theater.**
- **Develop Army policy regarding tracking, storage, archiving, and documentation of environmental data.**

DOTMLPF Solutions addressing Environmental Considerations and Sustainability

MTOE Solutions vs Non MTOE Solutions



MTOE Solutions

- Routine Standardized DOTMLPF processes
- Non routine processes to expedite (ONS) typically low priority

Non MTOE Solutions

- NO Standardized DOTMLPF processes
- Non routine processes to expedite (ONS) typically low priority and more justification required

Possible Way Ahead for Non MTOE Solutions

- Develop Standards for related equipment sets
- Evaluate possible equipment sets
- Develop listing of acceptable products and vendors
- Develop appropriate contract language for procurement when needed

Discussion